In The Claims:

1. (Original) A method for treatment of an apoptosis-related disease in a subject comprising administering to said subject a therapeutically effective amount of an inhibitor of the MKLP1 polypeptide, in a dosage sufficient to inhibit MKLP1 so as to thereby treat the subject.

2. (Original) A method according to claim 1 wherein the inhibitor is administered in conjunction with a chemotherapeutic agent.

3. (Original) A method according to claim 1 wherein the inhibitor is an antibody.

4. (Original) A method according to claim 1 wherein the inhibitor is an AS fragment comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:3.

5. (Currently amended) A method according to claim ~~1~~ 28 wherein the inhibitor is an siRNA comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:4.

6. (Original) A method according to claim 1 wherein the apoptosis-related disease is a cancer.

7. (Original) A method for potentiating a chemotherapeutic treatment of an apoptosis-related disease in a subject comprising administering to said subject a therapeutically effective amount of an inhibitor of the human MKLP1 polypeptide in conjunction with a chemotherapeutic agent.

8. (Original) A method according to claim 7 wherein the inhibitor is an antibody.

9. (Original) A method according to claim 7 wherein the inhibitor is an AS fragment comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:3.

10. (Original) A method according to claim 7 wherein the inhibitor is an siRNA comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:4.

11. (Original) A method according to claim 7 wherein the apoptosis-related disease is a cancer.

12. (Original) An antisense oligonucleotide capable of inhibiting the expression of the MKLP1 polypeptide, having the sequence set forth in SEQ ID NO:3.

13. (Original) An siRNA capable of inhibiting the expression of the MKLP1 polypeptide, having the sequence set forth in SEQ ID NO:4.

14. (Original) An expression vector comprising a nucleic acid molecule encoding the antisense oligonucleotide of claim 12 or the siRNA of claim 13.

15. (Original) A process for determining the susceptibility of a subject to a chemotherapeutic treatment of an apoptosis-related disease comprising:

(a) providing the average, normal level of the MKLP1

polypeptide in the cells of healthy individuals;
(b) determining the level of the MKLP1 polypeptide in said subject;
(c) comparing the levels obtained in (a) and (b) above, a low level of MKLP1 polypeptide in said subject as compared to the level in healthy subjects indicating a susceptibility of said subject to a chemotherapeutic treatment of said apoptosis-related disease.

16. (Original) A process for determining the susceptibility of a subject to a chemotherapeutic treatment of an apoptosis-related disease comprising:
(a) providing the average, normal level of mRNA encoding the MKLP1 polypeptide in the cells of healthy subjects;
(b) determining the level of mRNA encoding the MKLP1 polypeptide in said subject;
(c) comparing the levels obtained in (a) and (b) above, a low level of mRNA encoding MKLP1 in said subject as compared to the level in healthy subjects indicating a susceptibility of said subject to a chemotherapeutic treatment of said apoptosis-related disease.

17. (Original) A process for determining the efficacy of a chemotherapeutic treatment administered to a subject comprising:
(a) determining the level of the MKLP1 polypeptide in the subject prior to a treatment;
(b) determining the level of the MKLP1 polypeptide in the subject after the treatment;
(c) comparing the levels obtained in (a) and (b) above, a high level of MKLP1 polypeptide prior to the treatment as

compared to the level after the treatment indicating efficacy of the treatment.

18. (Original) A process for determining the efficacy of a chemotherapeutic treatment administered to a subject comprising:
(a) determining the level of the MKLP1 mRNA in the subject prior to a treatment;
(b) determining the level of the MKLP1 mRNA in the subject after the treatment;
(c) comparing the levels obtained in (a) and (b) above, a high level of MKLP1 mRNA prior to the treatment as compared to the level after the treatment indicating efficacy of the treatment.

19. (Original) A process of diagnosing a cancer in a subject comprising:
(a) providing the average, normal level of the MKLP1 polypeptide in the cells of healthy subjects;
(b) determining the level of the polypeptide in said subject;
(c) comparing the levels obtained in (a) and (b) above, wherein a high level of the MKLP1 polypeptide in said subject as compared to the level in healthy subjects is indicative of a cancer.

20. (Original) A process of diagnosing a cancer in a subject comprising:
(a) providing the average, normal level of a polynucleotide encoding the MKLP1 polypeptide in the cells of healthy subjects;
(b) determining the level of the polynucleotide in said

subject;

(c) comparing the levels obtained in (a) and (b) above, wherein a high level of the polynucleotide in said subject as compared to the level in healthy subjects is indicative of a cancer.

21-25. (Canceled)

26. (New) The method according to claim 1, wherein the inhibitor of the MKLP1 polypeptide is selected from the group consisting of:

(a) an antisense oligonucleotide complementary to all or a portion of a nucleic acid encoding said MKLP1 polypeptide, said oligonucleotide being capable of inhibiting the expression of said polypeptide;

(b) a modified human MKLP1 polypeptide which is capable of inhibiting the viability activity of the unmodified human MKLP1 polypeptide in a dominant negative manner;

(c) an siRNA;

(d) an expression vector comprising a nucleic acid encoding the antisense oligonucleotide of (a), the modified polypeptide of (b), or the siRNA of (c);

(e) an antibody capable of binding the human MKLP1 polypeptide and at least partially inactivating the viability activity thereof; and

(f) a small chemical molecule.

27. (New) The method according to claim 26, wherein the inhibitor of the MKLP1 polypeptide is selected from the group consisting of:

(a) an antisense oligonucleotide complementary to all

or a portion of a nucleic acid encoding said MKLP1 polypeptide, said oligonucleotide being capable of inhibiting the expression of said polypeptide; and

(b) an siRNA.

28. (New) The method according to claim 27 wherein the inhibitor is a siRNA directed to the MKLP1 gene.